

From: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) [derek.j.robinson1@navy.mil]
Sent: 12/17/2020 2:58:06 PM
To: Praskins, Wayne [Praskins.Wayne@epa.gov]
Subject: RE: RESRAD BUILD
Attachments: smime.p7s

Thanks Wayne. Hopefully these answers make sense to you. If not, we should have a call.

1. The basis for the decision to assess risk from the removable fraction using the “indirect ingestion pathway” rather than the “direct ingestion pathway.”
 - A. Direct ingestion refers to exposure from the source itself, indirect is from the removable part of the source that has settled elsewhere. For example, direct ingestion would include eating pieces of radiological paint.
2. The basis for the 0.1 value used for the “air release fraction” in the indirect ingestion pathway.
 - A. The air release fraction is the fraction of the removable contamination that becomes suspended, resulting in some inhalation and indirect ingestion dose. The Navy using 0.10 is conservative. Consistent with the CSM, The BPRG effectively uses 0.0. To be consistent with the EPA tool, we would use a value of 0.0, so.
3. The basis for the adult ingestion rate of 0.0001 m²/hr (and 0.0002 m²/hr for children). The October 2019 Battelle memo explains why the rate was doubled for children but doesn’t compare the absolute rates to the EPA calculators. If I did the math right, the effective ingestion rates in the EPA calculators are about an order of magnitude higher.
 - A. The indirect ingestion rate for a receptor directly affects the dose from ingestion of deposited dust (indirect ingestion) as described in Sections E.2 and J.3.6. The default value in RESRAD represents a mean value from a probabilistic input distribution for a 16-hour exposure day to account for adults having the bulk of the exposure time and is consistent with the CSM at HPNS. This factor is one in the key contributors to the overly conservative outputs by the BPRG calculator and is not consistent with our CSM.

From: Praskins, Wayne <Praskins.Wayne@epa.gov>
Sent: Wednesday, December 16, 2020 1:28 PM
To: Robinson, Derek J CIV USN NAVFAC SW SAN CA (USA) <derek.j.robinson1@navy.mil>
Subject: [Non-DoD Source] RESRAD BUILD

Derek –

We talked yesterday about some questions I had about the Navy’s RESRAD BUILD evaluation of the HPNS building RGs. I thought it might be useful to put my questions in an email to you.

1. The basis for the decision to assess risk from the removable fraction using the “indirect ingestion pathway” rather than the “direct ingestion pathway.”
2. The basis for the 0.1 value used for the “air release fraction” in the indirect ingestion pathway.
3. The basis for the adult ingestion rate of 0.0001 m²/hr (and 0.0002 m²/hr for children). The October 2019 Battelle memo explains why the rate was doubled for children but doesn’t compare the absolute rates to the EPA calculators. If I did the math right, the effective ingestion rates in the EPA calculators are about an order of magnitude higher.

I also mentioned the “air exchange rate” but see that its basis is described in the October 2019 Battelle memo. So no need to pursue that topic further. Thanks.

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